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EXAMINER	
UNGAR, SUSAN NMN	
ART UNIT	PAPER NUMBER
1642	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,226	GEVAS ET AL.	
	Examiner	Art Unit	
	Susan Ungar	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *11 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1 and 3-10* is/are pending in the application.

4a) Of the above claim(s) *6-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1 and 3-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *October 11, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The Amendment filed October 11, 2006 in response to the Office April 19, 2006 is acknowledged and has been entered. Previously pending claim 2 has been canceled, claim 1 has been amended and new claims 6-10 have been added. Claims 6-10 have been withdrawn from consideration by the examiner under 37 CRF 1.142(b) as being drawn to non-elected inventions for the reasons set forth below. Claims 1, 3-5 are currently being examined.

2. Claims 6-7 are directed to a method for treatment of gastrointestinal tumors further comprising assaying a serum sample from mammal to determine the level of extended gastrin 17 to determine a dosage for the neutralization of gastrin-17 and glycine-extended gastrin-17 (claim 6), further comprising monitoring antibody titer levels against glycine-extended gycine-17 and amidated glycine-17 and administering booster immunizations of the immunogenic compositions to maintain an antibody titer effective to neutralize glycine-extended glycine-17 and amidated glycine-17 (claim 7) disclosed in the newly added claims. The methods are materially distinct from the method originally presented because each requires different method steps using reagents, method steps and dosages and have objectives and criteria for success that are different from the originally presented invention which does not require either determination of the level of extended gastrin 17 or the monitoring of antibody titer levels.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly claims 6-7 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR1.142(b) and MPEP 821.03.

3. Claims 8-10 are directed to a method for treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin-17 comprising administering to a mammal a therapeutically effective amount of antibodies against gastrin-17 which is a method that is distinct from the method for treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin-17 comprising administering to a mammal a therapeutically effective amount of anti-G17 immunogenic composition as originally claimed. The newly claimed method is a materially distinct method which differs at least in method steps and reagents and/or dosages from the originally presented group. The administration of an anti-G17 immunogenic composition is clearly drawn to the active development of immunity as disclosed in the specification which is clearly different from the passive immunity developed by the administration of antibodies. In particular, the specification clearly distinguishes between the two methods stating "The present invention provides immunological methods for treatment of gastrin-dependent tumors which comprise the active or passive immunization of a patient with anti-G17 immunogen or antibodies against gastrin 17 hormone (paragraph 0010 of the published application).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly claims 8-10 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR1.142(b) and MPEP 821.03.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. The following rejections are being maintained:

Maintained and new Grounds of Rejection

Claim Rejections - 35 USC 102

6. Claims1 and 4-5 remain rejected under 35 USC 102(e) essentially for the reasons previously set forth in the paper mailed April 19, 2006, section 9, pages 7-8.

Applicant argues that US 5,785,970 does not disclose that antibodies against gastrin-17 are reactive with and neutralize amidated gastrin-17 and glycine-extended gastrin-17 and does not disclose that there are tumors that are stimulated by either amidated gastrin-17 or glycine-extended-gastrin 17 and therefore does not disclose that there are tumors that are stimulated by either amidated gastrin-17 or glycine-extended gastrin 17 and therefore the population treated according to the instantly claimed methods is different from the population treated in US 5,785,970. The argument has been considered but has not been found persuasive because contrary to Applicant's arguments, the population treated is not different than that treated by the method of US 5,785,970 since the method of the prior art comprises the same method steps as claimed in the instant invention, that is, administering a therapeutically effective amount of an anti-G17 immunogenic composition to the same population, that is subjects suffering from gastrointestinal tumors for the same purpose, that is for the treatment of gastrointestinal tumors, thus the claimed method is anticipated because the method will inherently lead to the treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin-17. See Ex parte Novitski 26 USPQ 1389 (BPAI 1993).

Applicant further argues that the amount of composition administered is not disclosed in US 5,785,970 to be sufficient for inhibiting the physiological activities of gastrin-17 and glycine-extended gastrin-17 and/or amidated

gastrin-17 since the prior art patent does not mention these species and the amount administered in the patent is only administered for inhibiting physiological effects of gastrin-17. The argument has been considered but has not been found persuasive because although the prior art reference does not disclose the amount of composition administered to be sufficient for inhibiting the physiological activities of gastrin-17 and glycine-extended gastrin-17 and/or amidated gastrin-17, for the reasons set forth above, given that the prior art comprises the same method steps as claimed in the instant invention, that is administering a therapeutically effective amount of an anti-G17 immunogenic composition to the same population, that is subjects suffering from gastrointestinal tumors for the same purpose, that is for the treatment of gastrointestinal tumors, thus the claimed method is anticipated because the method will inherently lead to inhibiting the physiological activities of gastrin-17 and glycine-extended gastrin-17 and/or amidated gastrin-17. Further, although the prior art reference amount to be administered is for the inhibition of physiological effects of gastrin-17 but does not disclose the amount of composition administered to be sufficient for inhibiting the physiological activities of glycine-extended gastrin-17 and/or amidated gastrin-17, the claimed method appears to be the same as the prior art method, absent a showing of unobvious differences. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the method of the prior art does not possess the same material, structural and functional characteristics of the claimed method. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed method is different from those taught by the prior art and to establish patentable

differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989).

Applicant's arguments have not been found persuasive and the rejection is maintained.

Grounds of Rejection

Claim Rejections - 35 USC 112

7. Claims 1, 3-5 are rejected under 35 USC 112, first paragraph as failing to comply with the enablement requirement. The claims(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to practice the claimed invention.

The claims are drawn to a method for the treatment of gastrointestinal tumors stimulated by glycine-extended gastrin-17 gastrointestinal tumors, comprising administering to a mammal a therapeutically effective amount of an anti-G-17 immunogenic composition.

The specification hypothesizes that serum-associated G17 has the potential to stimulate the growth of colorectal tumors in an endocrine manner mediated by CCKB/gastrins receptors and cites Watson et al. 1993. Gastrin-17 appears to be particularly implicated in stimulating the growth of human colorectal adenocarcinomas due to a possible increased affinity for CCKB receptors on tumor cells, over other gastrin hormone species (Rehfeld, J.F. 1972)(para 0004 of the published application). The specification exemplifies the active immunization of rats wherein anti-G17 immunogen was administered every 21 days for about 3 months followed by implantation of DHDK12 colon cancer cell line (para 0046-0047 of the published application). The specification teaches that the immunogen used in the exemplification of the claimed

invention stimulates immune cells that bind to both amidated and glycine-extended G17 but not to G34 (p. 11) and that anti-G17 immunization resulted in the potential neutralization of two trophic forms of gastrin, G17 and glycine-extended G17. The histological observations of colorectal cell line DHDK12 tumors provides evidence that in this model, treatment with anti-G17 immunogen slowed growth rate of the tumor in rat and reduced viable tumor area compared to untreated controls (p. 23).

One cannot extrapolate the teaching of the specification to the enablement of the claims because at the time the invention was made, those of ordinary skill in the art recognized that the actions of glycine-extended gastrin-17 on gastrointestinal tumors could not be predicted. In particular, Schmitz et al (Euro. J. Clin. Invest., 2001, 9:812-820) specifically teach that although the actions of gastrin on the gastric mucosa have been well-established, the effect of G17 amide, progastrin and intermediates on colon neoplasia in humans is controversial and further teach that the extent to which trophic actions of gastrin in colorectal cancer are mediated by functional gastrin receptors remains to be defined (see abstract). Although the specification hypothesizes that serum-associated G17 has the potential to stimulate the growth of colorectal tumors in an endocrine manner mediated by CCKB/gastrin receptors, it is clear from the information set forth below that this is in fact not the case. Further, although the specification exemplifies slowed growth rate of tumor in rat and reduced viable tumor area compared to untreated controls in a colorectal cell line rat tumor study, the study did not in fact demonstrate the tumor growth was "stimulated by gastrin-extended gastrin-17". Given the teaching of Schmitz et al, it is clear that five years post filing, the stimulation of any gastrointestinal tumor by glycine-extended gastri-17 had not been

established either in the specification of the art or record and the role of glycine-extended gastrin-17 in tumor formation was still the subject of controversy and speculation. In particular, as drawn to the specification, it is noted that the method disclosed in Example 6 specifically resulted in the "potential neutralization of two trophic forms of gastrin'. The stimulation of the tumors on the glycine extended form of gastrin was not established. Further, again as drawn to the literature, Watson et al, of record, published 8 days after the filing of parent US application serial number 60/011,411, teach that gastrin is a well-recognized growth factor for human colorectal adenocarcinomas and that the 17 amino acid form, G17 appears to be particularly implicated in this effect and that an autocrine growth loop, possibly involving gastrin precursors has been postulated to be involved in the proliferation of gastrointestinal tumors and teaches that the observation s of a mitogenic potency of the glycine-extended gastrin-17 raises the question of a possible autocrine role of processing intermediates of gastrin, which need to be examined. Although the instant specification again raises the question of the role of the glycine extended precursor, it provides no information drawn to the stimulation of any tumor by the glycine extended precursor. Further, Rehfeld (Gastroenterology, 1995, 108:1307-1310, IDS item) teaches that glycine-extended gastrins have not been shown to have significant growth-promoting effects on gastric mucosal cells. It has been speculated that perhaps glycine-extended gastrins stimulate growth of other cells. The speculation was nurtured by direct demonstration of a growth-promoting effect of glycine-extended gastrins on a rat pancreatic cell line. The question about possible effects of gastrin on colorectal cancers requires consideration of glycine-extended gastrins. Although conceptually controversial, the idea of glycine-

extended processing intermediates as growth factors has to be taken into account (p. 1308. col 10> Further Ciccotosto et al (Gastroenterology, 1995, 109:1142-1153, IDS item) teaches that the majority of colorectal cancers produce gastrin and show an increase in nonamidated gastrin levels in circulation. Whether this hypergastrinemia is of pathological importance or whether the gastrin contained in the tumor functions as an autocrine growth factor remains to be determined (p. 1151, para 4). Given the above, it is clear that the specification is deficient because at the time the invention was made, one could not predict with a reasonable expectation of success whether or not glycine extended gastrin-17 in fact stimulated gastrointestinal tumors based on either the teaching in the specification or the art of record.

In addition, one cannot extrapolate the teaching of the specification to the enablement of the claims because it is well known in the art that the art of anticancer drug discovery for cancer therapy is highly unpredictable. For example, Gura (Science, 1997, 278:1041-1042) teaches that researchers face the problem of sifting through potential anticancer agents to find ones promising enough to make human clinical trials worthwhile and teach that since formal screening began in 1955, many thousands of drugs have shown activity in either cell or animal models but that only 39 have actually been shown to be useful for chemotherapy (p. 1041, see first and second para). Because of the known unpredictability of the art, in the absence of experimental evidence in an appropriate animal model, with data commensurate in scope with the invention claimed, no one skilled in the art would accept the assertion that the claimed method would function as claimed based only upon the hypothesis that serum-associated G17 has the potential to stimulate the growth of colorectal tumors in an endocrine manner mediated by

CCKB receptors. Although the specification exemplifies an active vaccination method in an animal model – this does not enable the claimed invention because it is not drawn to the claimed invention which is not drawn to active immunization, but rather is drawn to treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin 17.

The specification provides insufficient guidance with regard to these issues and provides no working examples which would provide guidance to one skilled in the art and no evidence has been provided which would allow one of skill in the art to predict that the claimed method would function as claimed with a reasonable expectation of success. For the above reasons, it appears that undue experimentation would be required to practice the claimed invention.

8. If Applicant were able to overcome the rejections set forth above, Claims 1, 3-5 would still be rejected under 35 USC 112, first paragraph, because the specification, while enabling for a method for the treatment of colon/colorectal tumors whose growth is stimulated by glycine-extended gastrin-17, does not reasonably provide enablement for a method for the treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin-17, wherein the gastrointestinal tumors contain CCCB receptors, wherein amidated gastrin-17 is inhibited. The specification does not enable any person skilled in the art to which it pertains or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The claims are drawn to a method for the treatment of gastrointestinal tumors stimulated by glycine-extended gastrin-17 gastrointestinal tumors, wherein the gastrointestinal tumors contain CCCB receptors, wherein the immunogenic composition inhibits the effects of amidated gastrin.

The specification hypothesizes that serum-associated G17 has the potential to stimulate the growth of colorectal tumors in an endocrine manner mediated by CCKB/gatrin receptors and cites Watson et al. 1993. Gastrin-17 appears to be particularly implicated in stimulating the growth of human colorectal adenocarcinomas due to a possible increased affinity for CCKB receptors on tumor cells, over other gastrin hormone species (Rehfeld, J.F. 1972) (para 0004 of the published application). The specification further teaches that the CCCB receptors were found to be expressed in a high affinity form on 56.7% of human primary colorectal tumors (Upp et al. 1989(. The specification further hypothesizes that a potential autocrine loop may also exist due to endogenous production of precursor gastrin peptides by such tumors (Van-Solinge et al 1993 and Nemeth et al. 1993), as it has recently been shown that the precursor gastrin molecule, glycine-extended gastrin 17 (G17-Gly) stimulated the growth of a gastrointestinal tumor cell line. The specification reports that trophic effects of (G17-Gly) on tumors has been shown to be mediated by a receptor other than the CCCB receptor and an autcrine growth loop, possibly involving gastrin precursors, ahs been postulated to be involved in the proliferation of gastrointestinal tumors (Seva et al, 1994). Finally, the specification exemplifies the effects of administration to rats growing colorectal cancer cell line DHDK12 tumors with an immunogen that stimulates immune cells that bind both amidated and (G17-Gly) but not G34 (p. 11) which resulted in slowed rate of growth and reduced viable tumor area compared to untreated controls (p. 23).

One cannot extrapolate the teaching of the specification to the scope of the claims because (1) the only gastrointestinal tumors putatively stimulated by (G17-Gly) that is taught by the specification is colorectal cancer and at the time

the invention was made, those of skill in the art did not recognize any gastrointestinal tumors, other than colon tumors, that are associated with (G17-Gly), (2) the specification incorrectly hypothesizes and the art recognizes that colon tumors/cancers do not frequently express CCCB receptors, (3) the art recognizes that amidated glycine 17 functions by binding to CCCB receptors which are only rarely expressed in colorectal cancers.

In particular, (1) as drawn to tumors other than colon/colorectal tumors, one cannot extrapolate the teaching of the specification to the scope of the claims because a review of both the specification and the art have revealed that no gastrointestinal tumors, other than colorectal tumors, were known to be in any way associated with G17-Gly at the time the invention was made or ten years later as set forth below. In particular, the specification hypothesizes that serum-associated G17 has the potential to stimulated the growth of colorectal tumors in an endocrine manner mediated by CCCB receptors. However, although Dufresne et al (Physiological Reviews, 2006, 86:805-847) present a detailed review of cholecystokinin and gastrin receptors and specifically discuss the receptors, substrates for the receptors and their association with a variety of cancers (in particular the association of gastrin with gastric cancer, gastric carcinoid tumors, pancreatic adenocarcinoma, Barrett's esophagus and esophageal adenocarcinoma, small cell lung cancers, medullary thyroid carcinomas, Wilms' tumors, leiomyosarcomas, stromal ovarian cancer, leukemia) the only disclosure of G17-Gly association with any tumor is in reference to the peptide in association with colon tumors (see pages 827-829). In particular Dufresne et al teach that high concentrations of gastrin precursors such as G17-Gly have been observed in colon tumors and in the blood of patients with colorectal cancer. However, neither this teaching nor the

teaching of the specification provides enabling support that would point to any other gastrointestinal tumor type that could be treated with a reasonable expectation of success by the broadly claimed method.

Further, as drawn to (2)-(3) gastrointestinal tumors to be treated which contain CCCB, wherein the treatment inhibits the physiological effects of amidated gastrin-17, it is noted that Schmitz et al, *Supra* specifically teach that although the actions of gastrin on the gastric mucosa have been well-established, the effect of G17 amide, progastrin and intermediates on colon neoplasia in humans is controversial and further teach that the extent to which trophic actions of gastrin in colorectal cancer are mediated by functional gastrin receptors remains to be defined (see abstract). In particular, Baldwin et al (Gut, 1998:42:581-584) specifically state that controversy existed, two years post priority date of the instant application, over whether most colorectal carcinomas express the CCCB receptor. Although the reference cites the same UPP et al. 1989 reference referenced by the specification and indicates that Upp et al found that 57% of colorectal carcinomas tested contained high affinity CCCB receptors, two other studies found no high affinity CCCB receptors on an additional 134 colorectal tumor specimens, although some samples were found to contain low affinity receptors (see page 582) which could not be predicted to be involved with stimulation of cell proliferation due to their low affinity for peptide. In agreement with Baldwin et al, Dufresne et al, *Supra*, specifically teach that CCG2R receptors (formerly known as CCCB receptors) do not seem to be expressed in normal colonic epithelial cells and are found in only a minority of human colonic tumors. In addition, Dufresne et al teach that although trophic effects of glycine-extended G17 or progastrin show a marked increase in proliferation of colonic epithelial cells, the mature

amidated gastrin (which acts through the CCCB receptor) had no effect on this model (p. 829, col 2). Dufresne et al specifically teach that, it was found that the unprocessed forms of gastrin act as growth factors for colon cancer cell lines that do not express CCK2R and that as disclosed in the specification, glycine-extended G17 does not act through the CCCB receptor. Given the teaching above, it is clear that one would not predictably expect to treat a gastrointestinal tumor whose growth is stimulated by glycine-extended gastrin-17 wherein that tumor contains CCCB receptors, nor would one expect to treat that tumor by inhibiting the physiological effects of mature amidated gastrin.

The specification provides insufficient guidance with regard to these issues and provides no working examples which would provide guidance to one skilled in the art and no evidence has been provided which would allow one of skill in the art to predict that the claimed method would function as claimed with a reasonable expectation of success. For the above reasons, it appears that undue experimentation would be required to practice the claimed invention.

9. Claims 1, 3-5 are rejected under 35 USC 112, first paragraph, as lacking an adequate written description in the specification.

Claims 1, 3-5 are drawn to a method of treatment of gastrointestinal tumors whose growth is stimulated by glycine-extended gastrin-17. The specification teaches that gastrin-17 appears to be particularly implicated in stimulating the growth of human colorectal adenocarcinomas due to a possible increased affinity for CCCB receptors on tumor cells over other gastrin hormone species but does not disclose any other gastrointestinal tumors whose growth is putatively stimulated by glycine-extended gastrin-17.

Although drawn to DNA arts, the findings in University of California v. Eli Lilly and Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997) and Enzo

Biochem, Inc. V. Gen-Probe Inc. are relevant to the instant claims. The Federal Circuit addressed the application of the written description requirement to DNA-related inventions in University of California v. Eli Lilly and Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997). The court stated that "[a] written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula, [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." Id. At 1567, 43 USPQ2d at 1405. The court also stated that

> a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA" without more, is not an adequate written description of the genus because it does not distinguish the genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicated, does not suffice to define the genus because it is only an indication of what the gene does, rather than what it is.

Id. At 1568, 43 USPQ2d at 1406. The court concluded that "naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material." Id.

Finally, the court addressed the manner by which a genus of cDNAs might be described. "A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus." Id.

The Federal Circuit has recently clarified that a DNA molecule can be adequately described without disclosing its complete structure. See Enzo Biochem, Inc. V. Gen-Probe Inc., 296 F.3d 1316, 63 USPQ2d 1609 (Fed. Cir. 2002). The Enzo court adopted the standard that "the written description requirement can be met by 'show[ing] that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics ....i.e., complete or partial structure, other physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics. " Id. At 1324, 63 USPQ2d at 1613 (emphasis omitted, bracketed material in original).

The inventions at issue in Lilly and Enzo were DNA constructs per se, the holdings of those cases are also applicable to claims such as those at issue here. A disclosure that does not adequately describe a glycine-extended gastrin-17 stimulated gastrointestinal tumor itself logically cannot adequately describe a method of treating that tumor.

Thus, the instant specification may provide an adequate written description of glycine-extended gastrin-17 stimulated gastrointestinal tumor, per Lilly by structurally describing a representative number of glycine-extended gastrin-17 stimulated gastrointestinal tumors or by describing "structural features common to the members of the genus, which features constitute a substantial portion of the genus." Alternatively, per Enzo, the specification can show that the claimed invention is complete "by disclosure of sufficiently detailed, relevant identifying characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics."

In this case, the specification does not describe the glycine-extended gastrin-17 stimulated gastrointestinal tumors required to practice the method of claim 1 in a manner that satisfies either the Lilly or Enzo standards. The specification does not provide the complete structure of any glycine-extended gastrin-17 stimulated gastrointestinal tumors, nor does the specification provide any partial structure of such glycine-extended gastrin-17 stimulated gastrointestinal tumors, nor any physical or chemical characteristics of the glycine-extended gastrin-17 stimulated gastrointestinal tumors nor any functional characteristics coupled with a known or disclosed correlation between structure and function, other than the hypothesized colorectal tumor. Although the specification discloses a single hypothesized colorectal tumors t, this does not provide a description of glycine-extended gastrin-17 stimulated gastrointestinal tumors that would satisfy the standard set out in Enzo.

The specification also fails to describe the glycine-extended gastrin-17 stimulated gastrointestinal tumors by the test set out in Lilly. The specification describes only a hypothesized glycine-extended gastrin-17 stimulated gastrointestinal tumor. Therefore, it necessarily fails to describe a "representative number" of such species. In addition, the specification also does not describe "structural features common to the members of the genus, which features constitute a substantial portion of the genus."

Thus, the specification does not provide an adequate written description of the glycine-extended gastrin-17 stimulated gastrointestinal tumors that is required to practice the claimed invention. Since the specification fails to adequately describe the tumors to be treated, it also fails to describe the method of treatment.

10. Claims 1, 3-5 are rejected under 35 USC 112 first paragraph as the specification does not contain a written description of the claimed invention. The limitation of administration of an amount sufficient to inhibit physiological effects of gastrin-17, amidated gastrin and glycine-extended gastrin-17 has no clear support in the specification and the claims as originally filed. Although a review of the specification revealed support at paragraph 0010 for inducing anti-gastrin 17 antibodies in a human patient, wherein the hormone gastrin 17 and the prohormone gastrin G17-Gly are neutralized in vivo so as to inhibit their physiological effects, no disclosure of inhibiting the physiological effects of amidated gastrin is found. The subject matter claimed in claims 1, 3-5 broadens the scope of the invention as originally disclosed in the specification.

11. No claims allowed.

12. Applicant's amendment necessitated the new grounds of rejection. Thus, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Ungar, PhD

whose telephone number is (571) 272-0837. The examiner can normally be reached on Monday through Friday from 7:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley, can be reached at 571-272-0898. The fax phone number for this Art Unit is (571) 273-8300.

Effective, February 7, 1998, the Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1642.

Susan Ungar
Primary Patent Examiner
December 21, 2006